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Prolonged cough in children

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Contents

Basic rule

- A child with continuous cough without an obvious cause should be referred to investigations for asthma, allergy, and possibly for gastroesophageal reflux, or bronchoscopy.

Causes of prolonged cough

Recurrent infections

- The cough is not caused by a single episode of disease but rather by frequently occurring new infections associated, e.g. with the beginning of day-care.
- A careful history of the symptoms and the conditions in the family and in day-care is often helpful.

An infectious focus

- Cough may be the only significant symptom of silent otitis media with effusion in small children or subacute sinusitis in older children.
- In sinusitis cough is often present during the night or in the morning. It is not merely the result of mucous ´running down´ to the throath, but both the middle ear and the sinuses have cough receptors which cause the cough[1]. Ultrasonography of the maxillary sinuses is a safe method also for repeated examinations of maxillary discharge.
- The tympanic membranes should be examined with a pneumatic otoscope or by acoustic impedance testing. Mere visual inspection is not sufficient.
- Indications for chest radiography are considered carefully; repeated radiographic examinations during the same cough episode are usually unnecessary.

Whooping cough, mycoplasma, chlamydia

- See the article about whooping cough for the clinical manifestations. (See related EBM Guideline: **Whooping cough** available on the EBM Web site)
- Cough associated with pulmonary mycoplasma and chlamydia infections may be prolonged and continue for weeks, in the manner of whooping cough.

Hyperreactivity after an infection

- Bronchial hyperreactivity lasting for weeks is common after viral or mycoplasma infections. The most important symptom are bouts of cough during exercise and in cold weather[1, 2].

Asthma

- Asthma manifests most often as difficulty in breathing arising from mucosal oedema and brochospasm. The diagnosis is easy in such cases.
- Cough is another manifestation of bronchial hyperreactivity in asthma.
- The patients typically have cough during the night, during exercise and in cold weather.
- It is important to evaluate the child's condition clinically on several occasions: What are the child's symptoms, how does expiration appear and sound (if the child is old enough, always auscultate forced expiration).
- All symptoms or their absence are recorded.
- In children above 5 years of age, a 1 - 2-week follow-up of PEF values with a simple instrument at home is a useful examination.
- A bronchodilatation test or a free exercise test can also be performed. (See related EBM Guideline: **Wheezing in children** available on the EBM Web site)
- Asthma should be suspected if
    - Wheezing is heard repeatedly on auscultation of expiration
    - PEF values are lower than gender- and height-adjusted reference values.
    - PEF values are paroxysmally reduced by 20%.
    - PEF values decrease by 15% under exertion and increase by at least 15% after the inhalation of a sympatomimetic drug. (For calculation see Program 1 of the corresponding full text guideline available on the EBM Web site)
- The frequency of symptoms and the circumstances in which they appear as well as the efficacy of a possible trial medication can be follow up by using a symptom diary.
- In small children a trial medication with sympatomimetics or even inhaled corticosteroids is often the only possibility[3]. However, in children under 1 year of age the response to sympatomimetics is not always evident.

A foreign body in the respiratory tract

- The patient may have had symptoms for weeks or months, without a foreign body being suspected.
- When taking the history of a coughing patient it is always worthwhile to ask specifically for the possibility of a foreign body.
- If the foreign body is radio-opaque (which is rare) the diagnosis can be made by chest radiograph. In other cases a bronchoscopy is indicated[4].

Other causes of cough

- Children subjected to cigarette smoke at home may suffer from continuous cough.
- Gastro-oesophageal reflux may associate with prolonged cough. The history may reveal a considerable tendency for rumination in infancy[4]. The child should be examined in specialist care by using pH registration and, in necessary, endoscopy.
- Typical manifestations of psychogenic cough include hawking, speaking with a loud voice and coughing in specific situations. In 10% of children with prolonged cough the condition is psychogenic.

Related evidence

- Nedocromil sodium prevents exercise-induced bronchoconstriction (Level of Evidence=A; Evidence Summary available on the EBM Web site).

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